

Q

115

D 25

THE DANISH INGOLF-EXPEDITION.

VOL. IV, PART 3.

CONTENTS:

RUDOLF VON RITTER-ZÄHONY: CHAETOGNATHS.

PUBLISHED AT THE COST OF THE GOVERNMENT

BY

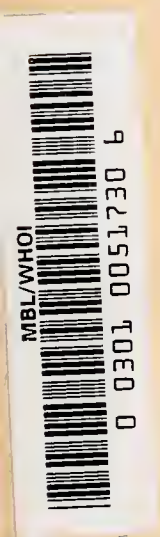
THE DIRECTION OF THE ZOOLOGICAL MUSEUM OF THE UNIVERSITY.

COPENHAGEN.

H. HAGERUP.

PRINTED BY BIANCO LUNO.

1914.



THE DANISH INGOLF-EXPEDITION.

VOLUME IV.

3.

CHAETOGNATHS.

BY

RUDOLF VON RITTER-ZÁHONY.



COPENHAGEN.

PRINTED BY BIANCO LUNO.

1914.

Chaetognaths

By

Rudolf von Ritter-Záhony.

The Sagitta material of the Ingolf Expedition, which Director G. M. R. Levinsen kindly transmitted to me for investigation, comes from the North Atlantic Ocean between Greenland and Norway and from the Davis Strait. It consists of vertical and surface hauls. Of the former I give a summary at the end of this paper; the results of the latter are only referred to in the text. Along with the "Ingolf" material I have also examined a larger collection of Chaetognaths, well-preserved in formaline, which was made on the cruises of the "Thor" in the North Atlantic during the years 1904—1907. The second list at the end of the paper gives the details of this collection.

In view of the thorough investigations, which have been made within recent years into the classification and distribution of the Chaetognaths, the material handed over to me could not be expected to contain any great novelty and, as a matter of fact, only known forms occurred, the horizontal and vertical distribution of which had already been elucidated. Only some few places are new for the species obtained, but they do not alter the picture of their distribution which earlier observations had given.

In the following I mention the species taken as also their occurrence in the hauls of the "Ingolf" and the "Thor", restricting myself otherwise to some few faunistic remarks. I can do this the more readily, since the systematic and faunistic characterization of the Chaetognath species has but recently been brought up to date in the "Tierreich" (29. Lieferung 1911), to which as also for the literature reference may be made.

Sagitta setosa J. Müll.

This epiplanktonic-neritic species, which has hitherto only been observed in the Channel and in the region of the North Sea, was frequently represented in the surface hauls of the "Ingolf" from the Skagerrak and the North Sea; in addition also from one station west of the Orkney Isles. This

place is new for the species. It does not occur in the vertical hauls of the "Ingolf", but appears in some of the "Thor"s, which were made in the North Sea, Skagerrak and Kattegat all from shallow depths.

***Sagitta elegans* Verrill**

Represented everywhere in the regions investigated by the "Ingolf" both in the vertical and surface hauls. The "Thor" more rarely took this species, which is however very common in the North Atlantic Ocean.

***Sagitta maxima* (Conant)**

Almost regular in its occurrence in the vertical hauls of both Expeditions from greater depths, twice — "Ingolf" St. 26, "Thor" St. 102 (1904) — some very young specimens also from shallower. In spite of this occasional occurrence of the species in the epiplankton, assuming that no mistake is contained in the data given me, the mesoplankton must be considered its true region of distribution according to all other observations.

***Sagitta lyra* Krohn**

On the Ingolf Expedition only once taken in the North Atlantic at 62° N. L., 21°36' W. L. from 100 fathoms; the "Thor" obtained it at several places in at least 150 m.

***Sagitta planctonis* Steinhans**

The only station of the "Ingolf", where this species was observed, is a vertical haul from the Davis Strait at 63°6' N. L., 56° W. L. from a depth of 200 fathoms. In the deeper hauls of the "Thor" on the other hand it frequently occurs. Station 152 (1904) 65° N. L., 18°10' W. L. is at the same time the northernmost point at which *S. planctonis* has hitherto been observed.

***Sagitta macrocephala* Fowler**

Only taken in two hauls of the "Thor" from 900 m. (St. 180, 1904) and 1400 m. (St. 76, 1906) (Cf. *Eukrohnia fowleri*).

***Eukrohnia hamata* (Möb.)**

Appears almost regularly in the vertical hauls of the "Ingolf" and "Thor"; also several times in the surface hauls of the former Expedition.

***Eukrohnia fowleri* Ritt.-Z.**

The two hauls from which *S. macrocephala* was obtained also contained *E. fowleri*. One of these stations (180, 1904) at 61°34' N. L. lying south of Island is the northernmost point at which these cosmopolitan deep-sea species have hitherto been directly observed. Station 71 of the "Thor" (1905) also contains *E. fowleri* but not *S. macrocephala*.

List of the vertical hauls of the "Ingolf"

(The occurrence of a species is indicated by X)

St. No.	N. L.	W. L.	Depth of the haul in fathoms	<i>S.</i> <i>elegans</i>	<i>S.</i> <i>maxima</i>	<i>S.</i> <i>lyra</i>	<i>S.</i> <i>planctonis</i>	<i>E.</i> <i>hamata</i>	
1	62°30'	8°21'	50	X	...	...	...	...	
2	63°4'	9°22'	30	X	...	...	...	...	
3	63°35'	10°24'	100	X	...	...	...	...	North Atlantic between the Faeroes and Iceland.
4	64°7'	11°12'	100	...	...	...	...	X	
6	63°43'	14°34'	50	...	...	...	...	X	
10	64°24'	28°50'	200	...	...	...	...	X	
11	64°34'	31°12'	200	...	X	...	...	X	Denmark Strait
17	62°49'	26°55'	200	...	X	...	...	X	
18	61°44'	30°29'	200	...	X	...	...	X	
19	60°29'	34°14'	300	...	X	...	...	X	
20	58°20'	40°48'	200	...	X	...	...	X	North Atlantic
22	58°10'	48°45'	200	...	...	...	...	X	
24	63°06'	56°0'	200	...	X	...	X	X	
26	63°57'	52°41'	20	...	X	...	...	X	
28	65°14'	52°42'	100	...	X	...	...	X	Davis Strait
32	66°35'	56°38'	100	X	...	...	...	X	
34	65°17'	54°17'	40	X	...	...	...	...	
40	62°0'	21°36'	100	...	X	X	...	X	
45	61°32'	9°43'	100	...	X	...	...	X	
47	61°32'	13°40'	100	...	X	...	...	X	
49	62°7'	15°7'	100	...	X	...	...	X	
52	63°57'	13°32'	200	...	X	...	...	X	
53	63°15'	15°7'	100	...	X	...	...	X	North Atlantic
54	63°8'	15°40'	100	...	X	...	...	X	
55	63°33'	15°2'	100	...	...	...	...	X	
57	63°37'	13°2'	100	X	X	...	...	X	
58	64°25'	12°9'	100	...	...	...	...	X	
59	65°0'	11°16'	100	X	...	...	...	X	
63	62°40'	19°15'	100	...	X	...	...	X	
68	62°6'	22°30'	100	...	X	...	...	X	
94	64°56'	36°19'	100	...	X	...	...	X	
97	65°28'	27°39'	?	...	X	...	...	X	
101	66°23'	12°5'	100	X	...	...	...	X	
102	66°23'	10°26'	100	X	...	...	...	X	
103	66°23'	8°52'	100	?	...	...	...	X	East of Iceland
104	66°23'	7°25'	?	...	...	...	...	X	
105	65°34'	7°31'	100	...	...	...	...	X	
117	69°13'	8°20'	100	...	...	...	...	X	
118	68°27'	8°20'	100	...	...	...	...	X	South of Jan Mayen
120	67°29'	11°32'	100	X	...	...	...	X	
121	66°59'	13°11'	100	X	...	...	...	X	



List of the hauls of the "Thor"

St. No.	Date	N. L.	Long.	Depth of the haul in meters	S. <i>setosa</i>	S. <i>elegans</i>	S. <i>maxima</i>	S. <i>lyra</i>	S. <i>planc-</i> <i>tonis</i>	S. <i>macro-</i> <i>cephala</i>	E. <i>hamata</i>	E. <i>fowleri</i>	
187	17. II. 04	57°40'	9°12' E.	20	...	×	...	...	...	...	...	...	Skagerrak
206	5. III. 04	57°15'	10°43' E.	15	...	×	...	...	...	...	...	...	
26	22. IV. 04	65°29'	24°36' W.	8	...	×	...	...	...	...	...	...	Denmark Strait
42	27. IV. 04	64°34'	13°56' W.	8	...	×	...	...	...	...	...	...	
58	3. V. 04	64°35'	11°45' W.	8	...	×	...	...	...	...	...	...	North Atlantic
63	5. V. 04	64°5'	9°38' W.	150	...	×	...	...	...	...	×	...	
70	9. V. 04	63°33'	6°20' W.	500	...	...	×	...	...	...	×	...	
71	9. V. 04	63°6'	6°20' W.	1250	...	...	×	...	...	...	×	...	
78	12. V. 04	61°8'	9°28' W.	700	...	...	×	...	...	...	...	...	
99	22. V. 04	61°15'	9°35' W.	850	...	...	×	...	×	...	×	...	
100	22. V. 04	61°21'	10°59' W.	90	...	...	×	...	...	...	×	...	
102	23. V. 04	61°41'	13°31' W.	8	...	...	×	...	...	...	×	...	
104	25. V. 04	62°47'	15°3' W.	750	...	...	×	×	...	...	×	...	
150	18. VI. 04	65°50'	26°53' W.	200	...	...	×	...	...	...	×	...	Denmark Strait
152	18. VI. 04	65°0'	28°10' W.	400	...	...	×	...	×	...	×	...	
153	20. VI. 04	65°20'	27°12.5' W.	50	...	...	×	...	...	...	×	...	South of Iceland
154	20. VI. 04	65°27'	27°10' W.	400	...	...	×	...	...	...	×	...	
178	7. VII. 04	63°8'	21°30' W.	380	...	...	×	...	...	...	×	...	North of Iceland
180	10. VII. 04	61°34'	19°5' W.	900	...	...	×	...	×	×	×	×	
183	11. VII. 04	61°30'	17°8' W.	900	...	...	×	...	×	...	×	...	North of the Faeroes
214	22. VII. 04	67°19'	17°55' W.	400	...	...	×	...	...	...	×	...	
230	4. VIII. 94	63°10'	7°31' W.	600	...	...	×	...	...	...	×	...	Denmark Strait
270	10. VIII. 04	66°19'	23°27' W.	35	...	×	...	...	...	...	...	...	
285	1. IX. 04	62°49'	18°46' W.	250	...	...	×	...	...	...	×	...	South of Iceland
286	2. IX. 04	61°49'	14°11' W.	400	...	...	×	...	...	...	×	...	
366	7. IV. 05	57°44'	11°15' E.	40	×	...	...	...	...	...	...	...	Skagerrak
61	28. V. 05	61°11'	11°6' W.	450	...	...	...	...	×	...	...	...	
71	7. VI. 05	57°47'	11°33' W.	750	...	...	×	×	×	...	×	×	West of the Hebrides
72	8. VI. 05	57°52'	9°53' W.	500	...	...	×	×	×	...	...	...	
82	15. VI. 05	51°0'	11°43' W.	600	...	...	...	...	×	...	×	...	South-west of Ireland
124	23. VII. 05	61°4'	4°33' W.	500	...	...	×	...	...	...	×	...	
163	28. VIII. 05	62°36'	12°5' W.	150	...	...	×	...	...	...	×	...	North Atlantic
165	29. VIII. 05	60°0'	10°35' W.	500	...	...	×	...	...	...	...	...	
167	1. IX. 05	57°46'	9°55' W.	750	...	...	×	×	×	...	×	...	West of the Hebrides
171	5. IX. 05	57°22'	1°33' E.	33	×	...	...	...	...	...	...	...	
172	6. IX. 05	57°33'	4°26' E.	33	×	...	...	...	...	...	...	...	North Sea
175	7. IX. 05	57°11'	11°34' E.	33	×	...	...	...	...	...	...	...	
52	21. V. 06	48°43'	12°5' W.	150	...	...	×	×	×	...	×	...	North Atlantic
65	6. VI. 06	49°4'	14°52' W.	150	...	...	×	×	×	...	×	...	
76	11. VI. 06	49°27'	13°33' W.	1400	...	...	×	×	×	×	×	×	
938	9. IV. 07	57°52'	8°44' W.	300	...	...	...	...	...	...	×	...	West of the Hebrides
939	11. IV. 07	58°8'	9°34' W.	300	...	...	×	...	...	...	...	...	
1039	6. V. 07	58°18'	10°7' W.	300	...	...	×	...	...	...	...	...	



THE DANISH INGOLF-EXPEDITION.

HITHERTO PUBLISHED:

1899.	Vol. I, Part I.	1. Report of the Voyage by <i>C. F. Wandel</i> (1 plate) . . .	Kr. 25,00 (Sh. 30)
		2. Hydrography by <i>Martin Knudsen</i> (34 plates)	
1900.	— Part II.	3. The deposits of the sea-bottom by <i>O. B. Boeggild</i> (7 charts)	- 8,00 (- 11)
		4. Current-bottles by <i>C. F. Wandel</i> (1 plate)	
1899.	Vol. II, Part I.	The ichthyological results by <i>Chr. Lütken</i> (4 plates) . . .	- 13,00 (- 18)
1899.	— Part II.	On the Appendices genitales (Claspers) in the Greenland- Shark, <i>Somniosus microcephalus</i> (Bl. Schn.), and other Sela- chians by <i>Hector F. E. Jungersen</i> (6 plates)	
1900.	— Part III.	Nudibranchiate Gasteropoda by <i>R. Bergh</i> (5 plates) . . .	- 4,75 (- 7)
1904.	— Part IV.	The North-European and Greenland Lycodinæ by <i>Adolf Severin Jensen</i> (10 plates)	- 9,75 (- 13)
1912.	— Part V.	Lamellibranchiata, Part I, by <i>Ad. S. Jensen</i> . (4 plates and 5 figures in the text)	- 8,00 (- 11)
1899.	Vol. III, Part I.	Pycnogonidæ by <i>Fr. Meinert</i> (5 plates)	- 6,00 (- 9)
1908.	— Part II.	Crustacea Malacostraca, I: Decapoda, Euphausiacea, Mysidacea by <i>H. J. Hansen</i> (5 plates)	- 8,00 (- 11)
1913.	— Part III.	Crustacea Malacostraca, II: Tanaidacea by <i>H. J. Hansen</i> (12 plates)	- 13,00 (- 18)
1903.	Vol. IV, Part I.	Echinoidea, Part I, by <i>Th. Mortensen</i> (21 plates)	- 20,00 (- 24)
1907.	— Part II.	Echinoidea, Part II, by <i>Th. Mortensen</i> (19 plates)	- 19,00 (- 23)
1914.	— Part III.	Chaetognaths by <i>R. von Ritter-Zähony</i>	- 0,50 (- 1)
1904.	Vol. V, Part I.	Pennatulida by <i>Hector F. E. Jungersen</i> (3 plates)	- 6,50 (- 9)
1912.	— Part II.	Ctenophora by <i>Th. Mortensen</i> (10 plates and 15 figures in the text)	- 10,50 (- 14)
1912.	— Part III.	Ceriantharia by <i>Oskar Carlgren</i> (5 plates and 16 figures in the text)	- 6,00 (- 9)
1913.	— Part IV.	Zoantharia by <i>Oskar Carlgren</i> (7 plates and 6 figures in the text)	- 7,00 (- 10)
1902.	Vol. VI, Part I.	Porifera (Part 1), Homorhaphidæ and Heterorhaphidæ by <i>Will. Lundbeck</i> (19 plates)	- 17,00 (- 22)
1905.	— Part II.	Porifera (Part 2), Desmacidonidæ (Pars) by <i>Will. Lundbeck</i> (20 plates)	- 20,50 (- 25)
1910.	— Part III.	Porifera (Part 3), Desmacidonidæ (Pars) by <i>Will. Lundbeck</i> (11 plates)	- 12,00 (- 16)

